

ELECTROSTATIC CHUCK, SUSCEPTOR AND METHOD FOR FABRICATION

Abstract of the Disclosure

An electrostatic chuck, or susceptor, includes an electrode and/or heating element embedded in a ceramic body, and has an electrical contact extending from the electrode. The electrode or heating element can be fabricated, for example, from molybdenum and the chuck body from aluminum nitride. The electrical contact includes a first metal and a second metal in a composition ratio wherein essentially all of the second metal is dissolved in the first metal, thereby essentially preventing formation of intermetallic species of the first and second metals. One example of an electrical contact includes about 99.8 weight percent molybdenum and about 0.2 weight percent nickel. Alternatively, the electrode can be fabricated from a first metal and a second metal in a composition ratio wherein essentially all of the second metal is dissolved in the first metal, thereby essentially preventing formation of intermetallic species of the first and second metals. The electrical contact can be fabricated from a metal such as molybdenum, or from an alloy of a first and second metal wherein essentially all of the second metal is dissolved in the first metal. The electrical contact can be formed *in situ* by the densification of a premixed metal powder precursor during the hot pressing step employed in fabricating the electrostatic chuck.